

**REMARKS**

In the Official Action of July 1, 2004, all claims 94-128 were rejected under 35 U.S.C. 102(b) based on the admission of prior sales by Dr. Brem. All claims were additionally rejected under 35 U.S.C. 103(a) as unpatentable over Kroenke et al., U.S. Patent No. 5,109,051.

By the present Amendment, the claims have been amended or cancelled to insure that the claim set very specifically reflects the language of the original application from which the present case is a continuation-in-part. To this end, the term "aluminosilicate" has been replaced by "material comprising silicone dioxide and aluminum oxide". This change has been made because "aluminosilicate" as a term does not appear in the original application. However, if anything, the replacement phrase is broader in scope. Further, the modifier "predominately" has been added before the term "vitreous" to reflect the teachings in both the patent and the continuation-in-part applications that the material is predominately vitreous with some material in crystalline form.

Claims 94, 96-101, 108 and 128 are canceled. Claims 95, 102-106, 109 - 115 and 117-127 are currently amended. Claims 107 and 116 are previously amended and depend from currently amended claims.

**35 U.S.C. 102(b)**

Turning first to the rejection under 35 U.S.C. 102 based on the Declaration of Dr. Brem, the operative paragraph in the Declaration states as follows:

2. I know of offers for sale of the mineral composition described in U.S. Patent Application Serial Number 09/322,211, filed May 28, 1999, for employment with thermoplastic resin to form a

composition as described in that application. Such offers for sale were made more than one year prior to December 26, 2001, the filing date of the present application.

The present application was filed as a continuation-in-part of the original application of May 28, 1999. The present application contains additional information as well as the information of the parent application. The present application also references the parent application for purposes of priority on common subject matter. Consequently, claims directed to the subject matter as originally filed in the 1999 parent application date back to that 1999 filing.

35 U.S.C. 120 Benefit of earlier filing date in the United States.

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application. No application shall be entitled to the benefit of an earlier filed application under this section unless an amendment containing the specific reference to the earlier filed application is submitted at such time during the pendency of the application as required by the Director. The Director may consider the failure to submit such an amendment within that time period as a waiver of any benefit under this section. The Director may establish procedures, including the payment of a surcharge, to accept an unintentionally delayed submission of an amendment under this section.

Dr. Brem's Declaration discloses offers for sale prior to December 26, 2000, "...more than one year prior to December 26, 2001...." There is no disclosure or admission that sales date back beyond one year prior to the filing date of the 1999 parent application, and they don't.

Given the aforementioned information disclosure by Dr. Brem and the right to present claims dating back to a parent application in a properly cast continuation-in-part, the only issue would appear to be support for the current claims in the parent 1999 application. The current set of claims has been carefully cast to employ the terms as well as the subject matter of that original application. To assist in the examination, the claims remaining as amended, with annotations to the parent application, are presented here:

102. (currently amended) A composition comprising  
a thermoplastic resin (p. 2, line 24); and  
a predominately (p. 13, lines 15-16) vitreous (p.12, line 24), naturally  
occurring (p. 12, line 24) formulation:

Silicon Dioxide ( $\text{SiO}_2$ ) -- about 73.0%,  
Aluminum Oxide ( $\text{Al}_2\text{O}_3$ ) and  
other oxides and trace minerals each less than about 5.0% (p. 13,  
lines 3-14), the formulation being in a quantity of less than about 2% by  
weight of the composition (p. 18, lines 10-11).

103. (currently amended) The composition of claim 102, the predominately  
vitreous formulation being in a quantity greater than about 0.5% by weight of the  
composition (p. 15, line 7).

104. (currently amended) The composition of claim 102, the predominately  
vitreous formulation being predominantly in a particle size range below about 75  
microns (p. 14, line 23).

105. (currently amended) The composition of claim 102 further comprising

a carrier for the predominately vitreous formulation (p. 15, lines 1-2).

106. (currently amended) The composition of claim 105, the carrier and the predominately vitreous formulation being in pellet form before dispersion within the composition (p. 14, line 23 and p. 15, line 1).

107. (previously presented) The composition of claim 106, the formulation being predominantly in a particle size range below about 75 microns (p. 14, line 23).

109. (currently amended) An article (p. 12, line 23) of manufacture made from a composition comprising

a thermoplastic resin (p. 2, line 24); and

a predominately (p. 13, lines 15-16) vitreous (p.12, line 24) aluminosilicate material comprising silicon dioxide and aluminum oxide (p. 13, lines 3-4) uniformly dispersed throughout the composition (p. 15, lines 5-6), the aluminosilicate material comprising silicon dioxide and aluminum oxide being in a quantity of less than about 2% by weight of the composition (p. 18, lines 10-11) to improve flow in the formation of the article (p. 15, lines 7-9).

110. (currently amended) The article of manufacture of claim 109 the predominately vitreous aluminosilicate material comprising silicon dioxide and aluminum oxide being in a quantity greater than about 0.5% by weight of the composition (p. 15, line 7).

111. (currently amended) The article of manufacture of claim 109, the predominately vitreous aluminosilicate material comprising silicon dioxide and

aluminum oxide being predominantly in a particle size range below about 75 microns (p. 14, line 23).

112. (currently amended) The article of manufacture of claim 109 further comprising

a carrier for the predominately vitreous aluminosilicate material comprising silicon dioxide and aluminum oxide (p. 15, lines 1-2).

113. (currently amended) The article of manufacture of claim 112, the predominately vitreous aluminosilicate material comprising silicon dioxide and aluminum oxide being in pellet form with the carrier before dispersion within the composition (p. 14, line 23 and p. 15, line 1).

114. (currently amended) The article of manufacture of claim 113, the predominately vitreous aluminosilicate material comprising silicon dioxide and aluminum oxide being predominantly in a particle size range below about 75 microns (p. 14, line 23).

115. (currently amended) A method for forming articles, comprising  
 selecting a thermoplastic resin (p. 2, line 24);  
 dispersing a predominately (p. 13, lines 15-16) vitreous (p.12, line 24) aluminosilicate material comprising silicon dioxide and aluminum oxide (p. 13, lines 3-4) uniformly throughout the selected thermoplastic resin to form a composition, the aluminosilicate material comprising silicon dioxide and aluminum oxide being in a quantity of less than about 2% by weight of the composition (p. 18, lines 10-11) to improve flow in the formation of the articles (p. 15, lines 7-9); and

forming articles by flowing the composition under elevated temperature and pressure (p. 15, lines 11-12; p. 16, lines 13-16).

116. (previously presented) The method of claim 115, the thermoplastic resin being selected from a group consisting of polyethylene, polyvinyl chloride, polypropylene, polystyrene, polyethylene terephthalate, acrylonitril butadiene styrene, polymethyl methacrylate, polyamide or polycarbonate (p. 6, lines 14-18; p. 9, lines 23-24; p. 10, lines 1-2).

117. (currently amended) The method of claim 115, the predominately vitreous aluminosilicate material comprising silicon dioxide and aluminum oxide being in a quantity of greater than about 0.5% by weight of the composition (p. 15, line 7).

118. (currently amended) The method of claim 115, the predominately vitreous aluminosilicate material comprising silicon dioxide and aluminum oxide being predominantly in a particle size range below about 75 microns (p. 14, line 23).

119. (currently amended) The method of claim 115, the predominately vitreous aluminosilicate material comprising silicon dioxide and aluminum oxide is dispersed in pellet form with a carrier (p. 14, line 23 and p. 15, line 1).

120. (currently amended) The method of claim 119, the aluminosilicate material comprising silicon dioxide and aluminum oxide is dispersed in a predominant particle size range below about 75 microns (p. 14, line 23).

121. (currently amended) The method of claim 115, the aluminosilicate material comprising silicon dioxide and aluminum oxide dispersed being naturally occurring (p. 12, line 24).

122. (currently amended) A composition (p. 12, lines 22-23) for the formation of articles, comprising  
a thermoplastic resin (p. 2, line 24); and  
a predominately (p. 13, lines 15-16) vitreous material (p. 12, line 24) comprising silicon dioxide and aluminum oxide (p. 13, line 14) uniformly dispersed throughout the composition (p. 15, lines 5-6), the material being in a quantity of less than about 2% by weight of the composition (p. 18, lines 10-11) to improve flow in the formation of the articles (p. 15, lines 7-9).

123. (currently amended) The composition of claim 122 therein the predominately vitreous material is in a quantity greater than about 0.5% by weight of the composition (p. 15, line 7).

124. (currently amended) The composition of claim 122 further comprising a carrier for the predominately vitreous material (p. 15, lines 1-2).

125. (currently amended) The composition of claim 124, the predominately vitreous material being in pellet form with the carrier before dispersion within the composition (p. 14, line 23 and p. 15, line 1).

126. (currently amended) The composition of claim 122, the predominately vitreous material being predominantly in a particle size range below about 75 microns (p. 14, line 23).

127. (currently amended) The composition of claim 122, the predominately vitreous material being naturally occurring (p. 12, line 24).

95. (currently amended) The composition of claim 94 122, the thermoplastic resin being selected from a group consisting of polyethylene, polyvinyl chloride, polypropylene, polystyrene, polyethylene terephthalate, acronytril butadiene styrene, polymethyl methacrylate, polyamide or polycarbonate (p. 6, lines 14-18; p. 9, lines 23-24; p. 10, lines 1-2).

Given the correspondence of the current claims with the disclosure in the parent application, Serial Number 09/322,211, filed May 28, 1999, the offers for sale which do not date back to bar the parent application cannot support a rejection under 35 U.S.C. 102.

**35 U.S.C. 103(a)**

The rejection of all of the current claims as obvious over Kroenke et al. is respectfully traversed. Kroenke et al. describes various light-shielding substances that can be added to polymers to produce a product with an opacity which is comparable or superior to that achieved by the same weight of pure titanium dioxide. See Col. 3, ll. 7 et seq. of Kroenke et al.:

It is an advantage of the present invention to provide a whitening/opacifying package having a reduced content of titanium dioxide while maintaining a suitable degree of whiteness and opacity or even improving on these properties.

To achieve this advantage of the Kroenke et al. invention, the ingredients to practice the invention by partial replacement of titanium dioxide are referenced at Col. 3, ll. 60-61 of Kroenke et al.:



The aluminosilicate extender compositions having utility in this invention are mullite and cordierite.

Mullite and cordierite are crystalline structures. Indeed, the crystallinity is understood to provide the requisite opacity. Further teachings regarding these minerals are found in Kroenke et al. at Col. 4, l. 15 through Col. 5, l. 15.

To support a *prima facie* case of obviousness, “all the claim limitations must be taught or suggested by the prior art”. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974); MPEP § 2143.03.

Each claim of the current claims specifically includes or uses at least “a predominately vitreous material comprising silicon dioxide and aluminum oxide” wherein the material is in a quantity of less than about 2% by weight of the composition. Kroenke et al., using mullite and cordierite, do not satisfy this common recitation.

A further requirement to the establishment of a *prima facie* case of obviousness requires that “there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.” MPEP § 2143. And further, if “the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” *In re Gordon*, 733 F.2d 900, 221 USPQ 1125, (Fed. Cir. 1984); MPEP § 2143.01.

Nowhere in Kroenke et al. is there any suggestion or motivation for the employment of “predominately vitreous material comprising silicon dioxide and

aluminum oxide". All teaching is directed to the crystalline substances of mullite and cordierite and that opacity is proportional to the amounts added . The invention in Kroenke et al. is to maintain "a suitable degree of whiteness and opacity or even improving on these properties." Further, the advantage of the invention in Kroenke et al. is directed to the supplementation of a portion of the titanium dioxide by other materials which provide equal or greater opacity to that of the titanium dioxide. The crystalline materials disclosed in Kroenke et al. provide that opacity, see Kroenke et al. col. 11, ll. 51-60:

It is significant to note that the appearance and opacity improve in the direction of M-1, M-2 and M-3, since this is the direction of increasing mullite concentration, and since these three pigments were made under similar conditions, and have very similar physical properties. The conclusion, for this well controlled series of very similar mullite pigments, is that the performance of M-1, M-2 and M-3 as extender pigments for  $\text{TiO}_2$  in the control PVC compound is proportional to their mullite content.

Predominately vitreous material, as shown in the presentation at the Examiner Interview, does not result in such a degree of whiteness and opacity. Application of the material of the present claims to the Kroenke et al. reference would defeat the purpose and advantage of the invention disclosed therein. The employment of this material would frustrate the Kroenke et al. invention of equaling or improving the opacity of a product through the substitution of mullite or cordierite for titanium dioxide. Thus, no motivation is provided in Kroenke et al. for using predominately vitreous silicon dioxide and aluminum oxide which would frustrate these teachings. As such, there is no support for a *prima facie* case of obviousness.

**Conclusion**

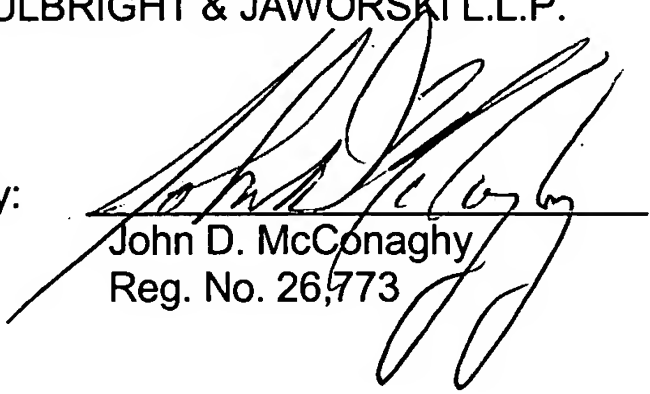
As the standards established by the Patent and Trademark Office as presented in the MPEP for supporting a *prima facie* case of obviousness are lacking, Kroenke et al. cannot support the rejection under 35 U.S.C. 103. Further, as prior offers for sale of the subject matter found in the present claims do not anticipate the 1999 filing and as the present claims are fully supported by that parent application, a rejection under 35 U.S.C. 102 finds no support for an on sale bar. Reconsideration of the rejection is earnestly solicited.

Respectfully submitted,

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